Reminder: To receive full credit for your homework, include as part of your solution a brief description of the problem that provides context.

This assignment includes problems related to estimation and hypothesis testing in the context of independent samples from two populations.

1. Find the article you found for your very first homework assignment. For this article, find (1) the population of interest, (2) a description of how the sample was taken, (3) the sample size, (4) an interpretation of a confidence interval (if one exists), (5) a description of the null and alternative hypotheses from a test (if one exists), and (6) the value of a test statistic, its null distribution, and a P-value (if one exists).
2. Exercise 7.18 (page 247). Also use the R function `pt` to determine P-values precisely.
3. Exercise 7.20 (page 248).
4. Exercise 7.24 (page 249). Also use the R function `pt` to determine P-values precisely.
5. Exercise 7.26 (page 250). Also use the R function `pt` to determine P-values precisely.
6. Exercise 7.34 (page 260).
7. Exercise 7.41 (page 269).
8. Exercise 7.47 (page 276).
9. Exercise 7.81 (page 308). Use R to construct a 95% confidence interval for the difference in population means as well as to conduct a t test. Interpret the results in the context of the problem.

   Here is one way to use R for this problem. Enter the data as a text file using NotePad or some other text editor.

   ```
   activity diet
   42.3     low-chromium
   51.5     low-chromium
   .
   .
   .
   52.1     low-chromium
   53.1     normal
   50.7     normal
   .
   .
   .
   53.7     normal
   ```

   Say we named this file "`ex7-81.txt`". Read the data set into R to an object rats with the command

   ```
   rats <- read.table("ex7-81.txt",header=T)
   ```

   (You can also read in data from the File menu in the Windows version of R.)

   You can use the `plot` function to produce side-by-side modified boxplots.

   ```
   plot(activity ~ diet, data=rats)
   ```

   You can do formal inference with the `t.test` command.

   ```
   t.test(activity ~ diet, data=rats, conf.level=0.95)
   ```

   The function `activity ~ diet` means that the response variable `activity` "is modeled as" a mean value that depends on the explanatory variable `diet` plus random error.